

WARM & COLD ROOMS - SAFE WORK PRACTICES

Uses: Warm and cold rooms, also referred to as environmental rooms, are designed to control temperature and humidity. Cold rooms can function as low as 35°F and warm rooms up to 120°F. They are used primarily for the growth of cells and organisms storage, but also for general chemistry and biology.

Ventilation: Environmental rooms typically have a closed air circulation. The only source of fresh air is when the door is opened and closed. Therefore, because environmental rooms have contained atmospheres, **the release of toxic substances from spills or vaporization poses potential occupational health and safety hazards to occupants.**

USE AND STORAGE

Do not conduct work with or store the following materials and equipment in environmental rooms:

- **Particularly Hazardous Chemicals** (i.e., highly acutely toxic chemicals, carcinogens, reproductive toxins): Can result in personnel exposure due to the lack of exhaust ventilation.
- **Volatile flammable solvents:** Exposed circulation fan motors and electrical lab equipment are potential ignition sources.
- **Volatile acids:** Can corrode coiling coils in refrigeration systems.
- **Asphyxiants** (e.g., compressed gases such as nitrogen or carbon dioxide): May displace oxygen due to limited ventilation rate, resulting in an oxygen-deficient environment.
- **Dry Ice:** An oxygen-deficient environment can occur from the release carbon dioxide gas.
- **Open flame** (e.g., Bunsen burners).
- **Food or Beverage:** They can become contaminated by chemicals or biological organisms. (This includes unopened bottles of beer and other beverages!)

Read about hazardous materials incidents that occurred in cold/warm rooms at:

<http://www2.umdj.edu/eohssweb/aiha/accidents/coldbox.htm#Index>

PREVENTING MOLD GROWTH

Unabated mold growth on environmental room surfaces may lead to mycological contamination of research projects and pose potential health problems from inhalation of spores. Spores can also be tracked out of the room and around the entire floor of the building. Minimizing mold growth requires the control of moisture in the environmental room:

- Keep door firmly shut – if left open, water condensation on surfaces increases due to high relative humidity, promoting mold growth.
- Immediately clean up spilled laboratory liquids (e.g., buffers and media). Moisture may lead to rust, corrosion or degradation of environmental room integrity (e.g., shelves).
- Promptly dispose of wet or damp organic materials (e.g., paper products, cardboard, miscellaneous trash, etc.).
- Store paper products (e.g., Kim wipes) in closed plastic container. Do not use or store cardboard boxes or other absorptive material in cold rooms.

REPORTING PROBLEMS

- Report any leaks and maintenance issues to:
 - Facilities Operations (campus) 723-2281
 - Engin. & Maintenance (SOM) 723-5555
- Report health & safety concerns to EH&S at 723-0448.



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